

C L A I M S

1. System for dispensing at least one liquid substance,
comprising:
 - 5 - at least one bag (3) filled with a substance which is to be dispensed,
- a dispensing device (100) which has a housing in which there is a space (102) for accommodating the bag,
wherein the bag has a first connector element (5),
10 and wherein the dispensing device has a second connector element (110), connectable to the first connector element allowing discharge of said substance from the bag,
characterised in that
the dispensing device comprises retaining means (300,303) for
15 retaining the first connector element (5) of each bag (3) in a defined pre-connection position prior to interconnecting the first and second connector elements (5,110),
and wherein the first and second connector elements (5,110) are displaceable relative to each other between a connected
20 position and a disconnected position, and wherein the dispensing device (100) has actuator means (200) associated with the first or second connector elements (5,110) for displacing the first and second connector elements relative to each other between the connected and unconnected position.
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2. A system according to claim 1; wherein the second
connector element (110) is displaceable, and wherein preferably
in the disconnected position the second connector element (110)
is located outside the space (102) for housing the bag.
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3. A system according to claim 2, wherein the housing of the
dispensing device allows insertion and removal of the bag (1,3)
in a first direction (i.e. horizontally) and the second
connector element (110) is displaceable in another second
35 direction, preferably at right angles to the first direction
(i.e. vertically).

4. System according to one or more of the preceding claims, wherein the space (102) in the housing is adapted to receive an assembly of multiple bags (3), and wherein each bag is provided with an associated first connector element (5), and wherein a
5 base element (6) is provided interconnecting the first connector elements (5) of the bags.
5. System according to one or more of the preceding claims, wherein the system comprises a carrier member (2) for one or
10 more bags, preferably a box in which one or more bags are accommodated.
6. System according to claim 4 or 5, wherein the retaining means (303) are adapted to retain the base element (6).
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7. System according to claim 6, wherein the retaining means (303) are adapted to slidingly receive the base element (6).
8. System according to claim 4, wherein the first connector
20 elements (5) and base element (6) are interconnected by snap means (10).
9. System according to claim 4, wherein the dispensing device (100) has multiple second connector elements (110) mounted on a
25 common support (201,202), said common support being displaceable between a connected and an unconnected position.
10. System according to one or more of the preceding claims, wherein the dispensing device comprises detector means (401)
30 for detecting the presence in the space in the housing of a bag or a carrier of one or more bags.
11. System according to claim 10, wherein the detector means (400) are interconnected to the actuator means (200) so that
35 the second connector element(s) is or are only displaceable towards the connected position if the presence of the bag or a carrier of one or more bags is detected.

12. System according to claim 11, wherein the detector means (400) comprise a mechanical detector (401) contacting a part of the bag, assembly of bags, or carrier (2).

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13. System according to claim 12, wherein the detector means (401) are adapted to detect the presence of the base element (6) associated with an assembly of interconnected bags.

10 14. System according to one or more of the preceding claims, wherein a latch is associated with the actuator means (200), said latch preventing displacement of the second connector element(s) towards the connected position if no bag, assembly of bags or carrier is detected.

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15. System according to claim 9, wherein the common support comprises a removable support member (201) on which the second connector elements (110) are mounted.

20 16. System according to one or more of the preceding claims, wherein the actuator means (200) comprise rectilinear guide means (305,306) for guiding the second connector element or the common support of multiple second connector elements.

25 17. System according to one or more of the preceding claims, wherein the actuator means (200) comprise a slideable member (205), slideable at right angles to the rectilinear guide means and interconnected to the second connector element or the common support of multiple second elements by a cam mechanism.

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18. System according to claim 17, wherein said cam mechanism comprises an interengaging slot (208) and follower (306).

35 19. System according to claims 17 and 18, wherein the slot (208) is provided in the slideable member (205) and the follower (306) is mounted on the common support (201,202).

20. System according to claim 4, wherein a removable or pierceable seal is fitted on the base element covering the openings of the first connector elements.

5 21. System according to one or more of the preceding claims, wherein each first connector element (5) is associated with a closing means (12) closing off the bore of the first connector element prior to interconnecting the first and second connector element.

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22. System according to claim 21, wherein the closing means is a plug (12) engaging a seat (13) of the first connector element in the closed position, which plug is displaceable from the seat to an opened position upon connecting the first and second

15 connector element.

23. System according to one or more of the preceding claims, wherein the first connector element (5) is a female connector element having a bore and the second element is a male

20 connector element. (110) fitting into said bore.

24. System according to claim 6, wherein the base element and the retaining means (303) comprise interengaging key formations (8,303) so that the base element can only be retained in a

25 particular orientation by said retaining means.

25. System according to claim 6, wherein the base element (6) is a elongated strip having a series of spaced receiving openings (9) for receiving the first connector elements (5) of

30 the bags.

26. System according to claim 25, wherein the strip has retaining rails (7) at opposite longitudinal sides thereof and the retaining means (303) include retaining grooves for

35 slidably receiving the retaining rails.

27. System according to one or more of the preceding claims, wherein the dispenser device (100) is a postmix beverage dispenser device having mixing means for mixing the one or more liquids with water.

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28. An assembly of bags filled with liquid, each bag having an associated first connector element (5) connectable to a second connector element (110) of a dispensing device and the first connector elements being interconnected by a base element (6).

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29. A bag-in-box assembly comprising a box member and an assembly of bags therein according to claim 28.

30. Method for filling an assembly of multiple bags with liquid substances, each bag having an associated first connector element and a closing means for closing the first connector element after filling, wherein the bags of the assembly are interconnected prior to filling by a base element interconnecting the first connector elements of the bags, after which the bags are filled, preferably simultaneously, and closed.

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